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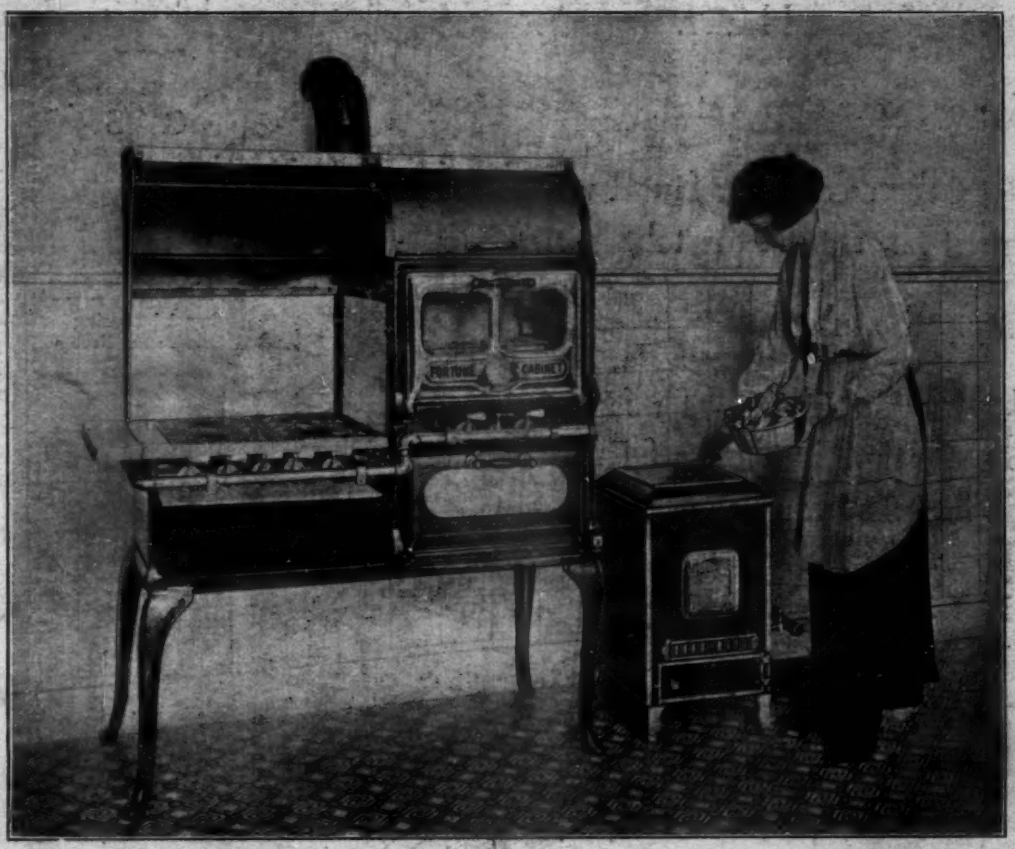

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INDEX TO CONTENTS, PAGE 489 ADVERTISERS' INDEX, PAGE 28

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Gas Companies Like Banks Are Community Builders

Their Responsibility in This Respect Does Not Permit Them to Judge Adversely Against New and Isolated Connections Merely Because They Do Not Develop Immediate Profit

By L. W. ALWYN-SCHMIDT

A problem, faced to-day by the majority of our gas companies, is that, how best to deal with the gaps in the distribution field, caused by the residential development of suburban communities. There is hardly a city of any size that develops not in one or the other manner residential districts outside the proper city limits. Gas companies are often put to the necessity of supplying gas to a number of consumers, spread only sparsely over a rather extensive area. In some cases the charter of the company may stipulate expressly the duty of the company, to supply gas to such localities. In others regional competition may force action. Nearly always there is the danger of electricity entering the field and capturing not only the lighting business of these districts but also the heating load.

Examples of such a development can be found in great numbers all over the United States and the progress of the gas industry has been severely hampered in the past by the disinclination of our gas men, to deal with such a situation effectively by giving the consumer all that he requires.

The usual objection against extending the service into such districts is that the gas company is losing money by making the connection and cannot afford to undertake the risk. The objection, no doubt, is true in practically every instance, but it is no sound argument in support of letting matters take their own course and giving the electrical power company a chance to capture a trade that might just as well go to the gas company.

Need of Bridging the Gap in the Distributing Field

The plain truth is, that our gas enterprises have not learned to deal with these situations scientifically and, instead of turning them to their commercial advantage, fail to make use of them, bungling in ninety out of a hundred cases all chances for a future recovery of the business.

The gas company like the banks and the other public utilities are community builders. Their managers must have a mind, open to all the needs of a growing community, and one of these needs, no doubt, is the formation of residential centers outside the business districts of the city to promote healthier living condition and abate the tendency of residential concentration, noticed in many of our American cities.

The formation of a cluster of dwelling houses, surrounded by gardens, outside the city in commuting distance, therefore, is a development that must be supported by all and every means. It must immediately be turned into a new asset to the gas company instead of being a liability, as often is the case.

Leaving a district of this kind without gas service, or giving it only an imperfect service, is the worst policy that can be followed. It will retard the development of the settlement and where, in a short while, a cluster of houses might spring up, a few solitary dwellings will remain for a series of years until the natural growth of the city forces further additions.

Real estate enterprise will make new attempts of settling the commuter in other districts, and the story will repeat itself all over again. The gas company then is faced by a series of widely distributed consumption centers, which cannot be made paying, when a decisive action in the beginning would have given to it an entirely new set of consumers.

Real Estate Development Must Be Watched

So the gas company will have to watch real estate development in its distribution field and should exert early its restrictive powers by counseling real estate operators as to the feasibility of supplying gas to one or the other district. If the development has, however,

finally appeared there is no other way but that of supplying gas whatever the cost of the risk, because the company cannot afford to let matters be otherwise. And, having once given the installation to the district, the service must be made of the best character and quality. It is as a rule not difficult to establish the cost of supplying gas to any particular section of the distribution field with some correctness, and it is just as easy to get a line on the turnover which is required to make a certain section paying.

If, therefore, such an outlying district has come into evidence all forces must be strained to bring its consumption up to a point, where it is profitable to the gas company. This can be done either by bringing new consumers in the district or by raising the consumption of the individual householder. The second will result invariably in the first, so there is no cause to be niggardly in any direction.

A Situation Often Met in Europe

This problem of dealing with suburban developments is not confined to American gas enterprise. It has to be met just as often in Europe, and European distribution practice has evolved various methods to deal with such a situation. In England, for instance, the garden city movement has resulted in the growth of many new suburban districts, planted as a rule into neighborhoods with little or no real estate development. These new garden cities are supposed to be model communities in every respect, giving the most of personal comfort to their dwellers at the least possible financial outlay.

Gas and electricity, therefore, are playing a very considerable part in equipping these new settlements, and the gas companies had to follow often very revolutionary policies, to fit their service into the needs of the garden city movement.

Similar adaptation of distribution practices has been required in Germany and in France during the last years, and the need for making further economies in the consumption of coal and energy may bring forward new modes of progress all over Europe.

In the following some of the methods of increasing the gas consumption in residential districts, used by European continental and English gas works, will be described. These are not examples of the work of one enterprise only, but have been selected from the experience of various companies with a special eye for their practicability and adaptability under American conditions.

The case in mind assumes a residential district, sparsely inhabited, where a number of houses of recent origin are placed in intervals of one hundred yards and more, with side streets partly developed, and new houses building to fill out the gaps. This is the situation in any suburban development and can be found around any of our American cities.

Paving the Way for New Business

The gas mains for such a settlement are designed as a rule with an eye for further expansion of the business, which in itself is a disadvantage for the technical handling of the distribution if only a limited quantity of business can be obtained for the time being. The first and most essential point to be gained in such a case is to connect each house with the main line, so as to make each dwelling a potential customer, even if the actual connection is not desired at the present time. This at least opens the prospect for coming business. It also gives a talking point to the representative of the gas company working the district.

The usual practice, followed by the English gas companies in respect to making house connections, is that the gas company carries the pipes at its own cost right into the building, even going so far as to bring it to the consumption points. This is a matter of expenditure of labor and material, but the investment pays in most instances as the existence of the gas connection leads in nearly every case also to the consumption of gas. The arrangement between the landlord and the gas company would be a matter for agreement. It certainly will pay the companies to do the piping of new buildings in such districts. Where this practice is followed the gas company knows that it has prepared the ground thoroughly and can now proceed to turn the tenant of the building into a gas consumer.

The advantages of cooking with gas are to-day so generally realized that nobody will worry about any other system of kitchen firing, provided gas is obtainable. So every properly connected house will at least secure to the company the cooking business of its owner or tenant.

Every little bit helps in building up a consumption. But there are various grades of gas stoves. There are the old and unpractical kind that waste gas. These may be good for the turnover of the gas company, but they hurt the business in the long run. If some of these stoves should have entered the district, they should be removed wherever possible and be replaced by stoves of the most modern pattern. These stoves are more economic gas consumers, but they have features that induce user to employ gas, because the use of the appliance makes for real economies or added comfort.

The example of a European continental company may be quoted.

This company had a rather high-class but old-fashioned residential district located in its distribution field. The houses had been equipped many years ago with gas and the kitchen ranges were mostly of the old-fashioned type. Repairs becoming very frequent, the company decided to give to its consumers free of charge a change of type and a new range was fitted containing beside the ordinary burners, a plate heater, a baking oven and various other improvements. As soon as the owners of the stove had discovered the advantage of warming their plates directly by the use of the flame instead of dipping them into hot water, of letting water simmer on a small burner or using a central bypass for lighting each burner when it was required, they made the fullest use of all these advantages. Everybody was satisfied with the new stoves and the additional consumption of gas paid fully for the cost of the new equipment.

Make the Kitchen Principal Point of Attack

Make kitchen equipment, therefore, a special study and let these districts have the fullest benefit of your added experience. Gas in the flitchen makes for cleaner service. It makes the servants happy and helps to lighten the load of the housewife. Wherever the gas consumption needs backing in any neighborhood the attack should be centered upon the kitchen. In the

kitchen it strikes the live center of the house and from there it will readily extend into other departments of the home. The question, whether a modern kitchen installation should be made free of cost in such districts, or whether special rates of hire are permissible is largely a matter of the charter of the company and, if the franchise does not oppose it, a matter of commercial policy.

Landowners developing new residential centers are often inclined to take over part of the risk of the installation, and failing so, the gas company will have to approach the prospective tenant or the purchasing owner. But whatever the practice used for the purpose of raising the gas consumption, the aim will sanction the means.

The gas industry cannot afford to rest in the matter of these new settlements.

A very effective plan of helping along the installation of the better style kitchen ranges in new and old houses is that of discriminating in favor of the better style stove by making no charge for the installation where it is customary to charge for installation.

English companies often follow the practice to give to their consumers a kitchen range free of charge. This method varies with the neighborhood and in some cases kitchen ranges are only given to consumers who use a slot (quarter) meter. Where this is the case the company has it in its power to improve slowly upon the type of stove by equipping the new houses all with the highest type of kitchen range. This will not only increase the consumption of gas from in those districts, where it is desired by the company, but it also is a distinct attraction for the intending purchaser of a home. The practice might easily be followed, or at least be copied in part, by our companies.

Having once equipped the kitchen with a range ,a water heater and other fixtures the remaining house is ready for the enterprise of the gas company. These outlying districts are the worst to be supplied with coal or any other kind of fuel. During the winter the householder must keep in readiness a large store of fuel because he may be cut off any moment from the source of supply. Gas will do the service of coal at reasonable cost and with less trouble. If gas has to be supplied, therefore, to such districts, why not make the service complete and get all the business from the neighborhood that can be had. The proposition between the gas company and the householder is purely an economic one. Can the gas company save money to the householder in the matter of fuel and other heating expenditure? The answer must be decidedly: Yes.

Labor Saving

One servant will do the work of two in a gas served commuter's home. No need of storing coal. A matter of fifty or sixty dollars should pay for the heating arrangement for a whole house. But the gas company must meet the consumer. It should make the house connection free and it should sell the equipment free of profit. European gas companies are meeting the requirements of such a situation by making special offers to intending householders or during the removal time, restricting their offers only upon a short period, so as to eliminate the danger of complaints of former purchasers.

The offer is often worded so as to give the purchaser the right of paying the cost of the equipment in monthly instalments. These are charged pro rata with the gas bill while the company undertakes to make the installation. Or the company rents the equipment to the consumer giving him the right to apply the rent after a year to purchase. Often the arrangement is made dependent upon the character of the transaction. Better terms are given when the consumer agrees to fit the whole house with gas heating, than when he takes only one stove for one room. In England the character of the agreement is often dependent upon the rent of the house in which the installation is made. So a gas company may install a certain type of gas stove free of charge in houses only that are assessed at a rent of less than 40 pound sterling.

Appliances Adaptable Both Summer and Winter

There is the danger in laying too great stress upon heating equipment in such a campaign for raising the consumption of a district because it will add to the consumption of gas principally during the cold time of the year, while lowering it heavily during the summer. It is, therefore, necessary to introduce into such localities a number of gas appliances that have their equal uses during winter and summer. The most recommendable of these has been found in Europe the geyser for the bathroom. No other piece of gas equipment is used so frequently during the summer when once installed and the convenience of the geyser cannot sufficiently be pointed to. It removes the necessity of keeping going the kitchen range to provide hot water for the bathroom while it permits the pleasure of a hot bath or making a little hot water for washing one's hands in a few minutes. The geyser, therefroe, has been found one of the best sellers amongst the gas appliances for the house and it should be made more use of in this country than is the case now. It gives to the country home all the advantages of a centrally heated city apartment.

Heating and cooking devices are those that consume the largest quantity of gas and, therefore, are most likely to raise the gas consumption of a small area. But a campaign for this purpose is certain to bring other advantages. Much of the lighting business can be retained if we only would set ourselves to correct the present disadvantages of gas lighting by giving to the consumer pneumatic lighting arrangements. The gas iron, usually sold by our gas companies, is open to improvement and certainly could be bettered. There is a European type of gas-heating iron that can be used without the disadvantages of a connecting pipe and in this manner is a distinct advantage over the present gas and also the electric iron. Hardly anything has been done to bring gas into the laundry of the American country house, another feature that would add materially to the gas consumption of just these detached communities that are to-day so difficult a problem in the financial household of our gas companies.

The solution is easy enough. It is found by making gas useful to the suburban dweller and by doing so to encourage him to use it in larger quantities than he is accustomed to consume now.

Avoidable Waste of Fuel in Generating Power $1,500,000 per Day

In the generation of power, the avoidable waste of fuel alone in the United States easily reaches the value of $1,500,000 a day, to which may be added the loss through the lack of continuity of service, decrease in production, and the loss through the purchase and maintenance of spare equipment, declares C. M. Garland in an article in *Journal of the American Institute of Electrical Engineers.*

The above are the avoidable losses under present methods of power generation in public utility and industrial plants as they stand to-day. Combine the savings which can be effected in these plants without even attempting larger scale methods of generation and distribution with the saving that can be effected through these methods and the total savings will amount to more than $3,000,000 a day. The inefficiency in the industrial and also in most of the public utility plants is due to the poor design of the plant, to poor load factors and to poor operation. There is not one small or medium size plant in a hundred that is designed so that it can be operated efficiently or if it is so designed, is actually so operated.

All of the above conditions leading to poor economy in the use of fuel, to the waste of natural resources, to the losses enumerated above and to railroad and terminal congestion are traceable to small scale power and heat production.

The writer is convinced, however, that no regional power development scheme north of the Mason and Dixon line which contemplates the generation of power from coal is complete unless it provides heat for industrial plants in winter, and furthermore, that no regional power development scheme contemplating the generation of power from bituminous or semi-bituminous coal is more than half-way complete if it does not contemplate the recovery of the by-products from the coal.

In the central and northern portions of the United States every industrial plant for from seven to eight months out of the year requires fuel for heating. In 75 per cent of these plants, the fuel required for heating is more than sufficient to generate the power required for manufacturing operations. For practical purposes, it may therefore be considered that the power is obtained during these months without fuel expenditure. This explains why only 30 per cent of the industrial plants buy their power. Of this 30 per cent 20 per cent would doubtless be better off if they had efficiently operated plants and generated their own power. The writer is a strong advocate of central station development but believes that it is well to recognize the limitations imposed by existent conditions.

American inventive genius and American enterprise when working on projects in popular demand and when playing to the gallery, so to speak, transcends itself. When working on more obscure matters and on less popular projects it may be accused of groveling in the dust. An excellent illustration of this is the comparison between the development of the automobile and the steam locomotive. The former having been developed in less than twenty-five years, taking its power from a source recognized as unreliable, operating on all kinds of roads and operated by unskilled mechanics is to-day just as reliable, requires less attention, has fewer repairs than the latter after over one hundred years of development, when operating on roads as smooth as engineering methods can produce, and when operated by skilled mechanics with years of experience.

The same is true of the power station. The development of the electrical end, that end which is the most spectacular and appealing to the imagination of the public has been rapid. The steam and the fuel burning ends of the power plant have lagged behind. There has been no real development in the generation of steam or the burning of fuel in the past forty years. We are still burning most of our fuel on grates that were considered modern in the stone age and are absorbing heat in boiler representing zero in engineering achievement. So it is with the recovery of the by-products from coal. The amount of the by-products, the chemical composition and the methods of recovery have been known for years. Yet, the amount of by-products recovered from fuel burnt for the production of power is insignificant.

In the United States where at least 500,000,000 tons of bituminous coal are burnt annually, there are 10,000,000,000 gallons of tar and the equivalent of 30,000,000,000 pounds of ammonium sulphate, having a combined value of $2,500,000,000 burnt up with the coal. It is not practicable to save all of these by-products but a recovery of 25 per cent could reasonably be expected when it is considered that 80 per cent of the coal mined is used by industrial plants, public utility plants and the railroads.

The remarkable part of all of this is that the means are at hand to-day and have been at hand for a number of years, the regional distribution of heat, the placing of every industrial load on the central station, the relieving of railroad congestion, particularly terminal congestion, through the reduction of the hauling of fuel, the reduction of the smoke nuisance in cities, and in addition to these, the recovery of the by-products from at least 25 per cent of the coal mined.

Coal or Gas in Continuous Kilns

There appears to be a considerable amount of misunderstanding with respect to the use of coal and gas for firing continuous kilns, and many incorrect statements have been made with respect to each of these fuels.

It is scarcely worth while comparing the calorific power of the two fuels and endeavoring from this to calculate the relative cost of each under ideal conditions, because the actual conditions of use are so widely different from the ideal that such a comparison is misleading rather than helpful.

Coming to a more practical basis, it is important to observe that in the conversion of solid fuel into producer gas there is a definite and fairly constant loss of heat of about one-third of the total heating power of the fuel. Consequently, if gas and coal were equally efficient in the kiln itself there would be a gain of nearly 30 per cent in favor of coal as against producer gas. There is admittedly a greater efficiency in burning gas than coal in a kiln, but no one imagines that it approaches 30 per cent, so that the benefits derived from the use of gas must be sought in other directions, of which the most important is the greater control of the heating. Firemen who are accustomed to use coal are able to control the heating of a kiln within quite satisfactory limits by the exercise of a considerable amount of skill and unremitting attention, but when working a

gas-fired kiln their work is both lighter and less irksome and the variation of the heating is reduced, provided the producer is under the care of a reliable man.

In many cases firms which have changed from coal to gas firing have found that they have merely removed their difficulties from the kiln—which they understand—to the producer, of which they have little or no real knowledge, and the consequences are sometimes disastrous. A gas producer is, apparently, a very simple piece of apparatus, and a description of its working gives the impression that it should be easy to manage. A closer acquaintance with it shows how seriously wrong is this view of the subject. If the coal is suitable in quality and in the size or grade of the pieces; if the men in charge clean the producer properly and poke it in a proper manner, they will produce gas of good, uniform quality; but if one of these conditions fails, the quality or quantity of the gas is adversely affected and the goods in the kiln consequently suffer. Any firm using gas producers in connection with kilns will confirm this, if it is willing to admit their difficulties and failures; which, naturally, is seldom the case.

The chief advantages which are derived from the use of a gas producer and a gas-fired kiln are the greater ease and certainty with which the temperature of the kiln can be regulated (this depending largely, of course, on the man at the producer) and the use which may be made of small coal which will not burn satisfactorily on an ordinary grate. When goods are burned in saggers in single kilns, gas-firing also reduces the waste of saggers, though this is not nearly so noticeable in continuous kilns which are fired with coal. Minor advantages which must not be overlooked are the delivery of all coal to one place—the producer—instead of to the various kiln mouths or feed holes; the removal of ashes from the producer is easier and cheaper than from a fire-mouth; the brickwork of the kiln is not damaged by the removal of ashes (this being specially important in burning firebricks and silica bricks), and mechanical appliances can be readily used for this work, thereby reducing the chance of labor troubles.

So far as is known, no clay-working firm in Great Britain has installed a gas producer which approaches in its automatic nature some of the producers used in the steel industries, such as the use of a rotary base which automatically removes the ashes and also stirs the column of fuel and reduces the necessity of poking to a minimum. It may happen that this type of producer is not suitable for use in connection with kilns, but it ought to be very carefully considered.

The apparent simplicity and ease of regulating the gas valves in a gas-fired kiln are greatly in its favor when the producer is under good management, but where there is any doubt about the latter it will often be found that ovens and kilns are more efficiently fired with coal, notwithstanding the advantages offered by the use of gas. In addition, the coal in a kiln mouth is often fired in a manner which is really very similar to the action in a producer—a producer being really only a very deep firebox, with the advantage of greater ease in regulation and less loss of heat in transference to the kiln. In a continuous kiln it is still more easy to arrange for the combustion of the coal on lines very similar to that in a producer, and many skilled burners prefer a direct fired kiln because it avoids so many of the drawbacks of the producer. By keeping the fuel apart from the goods, as is done in all the more modern continuous kilns, the complete combustion of the coal under conditions which are fully as economical as in a producer are obtained and the regulations of the temperature can be effected with great nicety by the use of a small shovel and by feeding the coal in small quantities at a time along the full length of the grate. The usual difficulties associated with producers are avoided, and though the regulation seems crude as compared with the use of a gas valve, it is remarkable how accurate it is in the hands of a man of moderate skill.

There is little or nothing to be gained by the use of gas-fired kilns for common bricks, facing bricks and terra cotta, or for roofing tiles. For some classes of firebricks gas has a considerable advantage in so far as the higher temperatures required can be more economically and certainly reached than by direct firing. As in many other portions of brick-making, no general rule can be given as to when a direct-fired or a gas-fired kiln should be used. Local conditions often are so important that the only reliable method of selection is to view the subject in the widest possible manner with the maximum amount of facts available, and preferably with the assistance of an expert of unquestioned impartiality and breadth of knowledge and experience.

Plant that Roasts All of Navy's Coffee Uses Gas

Has Made for Cleaner Service, Easier Operation and Increased Production

The Navy buys, blends and roasts more coffee than any manufacturer in the world in proportion to the number of men employed, declares Logan E. Ruggles, U. S. N., in an article in *The Tea and Coffee Trade Journal*. The actual authorized enlisted strength of the Navy is 131,485 men, and each is allotted a ration of two ounces of coffee per day, hence a division for handling this commodity.

A few years ago, when the Navy went dry, some writer trying to be funny said: "We now have a 'Grape Juice Navy.'" But we are rather inclined to think that we have always had a good, *strong* coffee Navy. Most everyone knows that sailors drink coffee, but everyone doesn't know how much they drink, nor do they know that the Navy roasts, blends and grinds its own.

The Fleet Supply Base, Brooklyn, N. Y., operates its own coffee plant and supplies the entire Navy. Consignments are sent to all naval bases and stations, chief among which are those at Boston, Philadelphia, Norfolk, Va., Mare Island, Cal., Bremerton, Wash., Honolulu, T. H., and Cavite, P. I.

The green coffee is purchased after a careful inspection by a coffee expert, and no "chop" below a Santos 5 is accepted. It is then blended by a man who has had twenty years' experience in the coffee manufacturing business.

The Navy's Roasting Methods

The operation of roasting coffee in the Navy prob-

ably differs in no essential from that employed in our commercial establishments, but it is believed that a short description of the Navy's procedure may be of interest.

After all tests have been made the coffee is sent to the mixer, which has a capacity of 3,780 pounds, thence to the milling machines, which remove all sticks, strings and other foreign matter. From there bucket elevators carry the cleaned coffee to the roasting storage hoppers, and when ready, drop it into the revolving cylinders of the roasting machine. From the roasters the coffee is dumped into the cooling cars, where it remains for about five minutes, and then to the stoning boot where all remaining refuse is removed. The clean roasted bean is then drawn through air pipes to the storage hoppers—located directly over the grinding mills, which grind it to a "fine granulated." It then is passed through other storage hoppers, from which it is weighed by automatic scales into either 100-pound galvanized drums or 5-pound fiber containers, at which time it is ready for shipment.

Tests are conducted in the chemical laboratory maintained in connection with the inspection of all Navy foodstuffs, and instructions on the best processes for making coffee for the table are issued. This latter phase is considered particularly desirable since it is a well known fact that the best coffee ever grown, blended to perfection and roasted to exactly the proper degree, may be absolutely ruined by being improperly or carelessly treated in the final process of preparing it for consumption.

Previous to the time when we entered the war, a battery of coal roasters, with capacity of 8,000 pounds each per day was in use. As the needs of an augmented personnel increased this type of plant was found inadequate to meet the demands and Huntley Gas Monitor roasters were installed. The temporarily increased cost of production was quickly balanced by cleaner service, easier operation, and (the main object for the change) increased production.

At the height of war-time activities the coffee plant was operated twelve hours per day, and the total output for a single month was 2,808,000 pounds.

During this period a force of thirty-five men were employed. The plant was under the direction of three Naval officers and the coffee expert. The maximum output was 50,000 pounds of roasted, ground and packed coffee ready for shipment every eight hours. Every time the clock ticked a pound of coffee was sent through the Navy coffee plant.

Some Navy Roasting and Packing Costs

The green coffee is purchased, as are other commodities for the Navy, under the laws of the sealed bid system from dealers. Only a short time ago a shipment of green bean coffee was brought to the plant as ballast and it may be that this method of procurement will be permanently established. This, however, depends on the price asked by contractors. Buying is a very important factor.

Our rate of production is a strong comment on "outside" prices, when it is remembered that we use no "chops" under Santos 5's, and no fillers whatsoever, and a very small amount of water—which is absolutely necessary to check the roast as against the flooding practice. The Navy gives to its consumers an absolutely pure product at 29 cents per pound (present price) in the five-pound containers for sale through the commissary stores to the personnel of the Navy.

A very essential item in packing and shipping coffee, as every dealer knows, is the container. For overseas, large and long distance shipments steel drums are used by the Navy. This type of container cost the government $3.75 each, but the drums are returned and used time and time again. If they become battered and soiled they are placed in first-class condition at the plant. After various experiments the drum washing machine was installed; a solution of potash is used for cleaning the drums.

The following tabulation presents a graphic "picture" of the quantities of coffee handled at the Fleet Supply Base during the war and now, and also some comparative costs:

There are kept on hand at the Navy coffee mill for *daily* delivery to the various ships and stations:

500,000 lbs. in 100-lb. drums.
50,000 lbs. in 50-lb. cartons.
18,000 lbs. in 5-lb. containers.

Green coffee roasted during the war, per month	2,808,000 lbs.
Roasted coffee packed during the war, per month	2,419,200 "
Green coffee roasted, normal times, per month	1,622,400 "
Roasted coffee packed, normal times, per month	1,397,760 "
Shipments of roasted coffee during war, per month	2,400,000 "
Shipments to supply ships for convoy fleet	1,000,000 "
Shipments to transports for overseas fleet	800,000 "
Shipments to various navy yards	600,000 "
Average price of green coffee during the war	15c per lb.
Green coffee, present price	23.96c per lb.
Roasted coffee, price including overhead cost	28.336c (100-lb. drums)

Approximate fluctuation in price to Navy:

——1919——		1920
Sept.	Nov.	Feb.
30c	36c	29c

These prices are for *pure* coffee furnished to the ships and stations through the Provisions and Clothing Department. The coffee plant, running full capacity, manufactures this commodity at a cost of 1⅞ cents per pound.

New Service Company Organized

A new company named the Eastern Service Company, opened offices at 131 State Street, Boston, Mass., on June 1. The company is incorporated under the laws of the State of Massachusetts, and will handle the business of the Russell Engineering Company, St. Louis, Mo., the Stacey Bros. Gas Construction Company, of Cincinnati, Ohio, and other accounts of builders of gas works equipment and supplies.

The new company is organized so as to be able to give complete service to the gas companies of New England, which includes expert engineering advise, as well as to supply the highest grade of gas works equipment.

Mr. H. P. Halvorson, the well known New England gas engineer, is general manager of the new company.

Use of Gas in the Manufacture of Pins

The Tank Furnace for Cleansing—Trimming Furnace—Number of Available Prospects Not Large But Worth Seeking Out for the Gas Lines

By GILBERT C. SHADWELL

If there is a pin factory on your gas lines it can use gas for several purposes incidental to certain of the operations involved. And it will pay to know something of pin making before offering the services of the gas company.

When compared with the historical methods of manufacture, the making of pins to-day must certainly be considered a wonderful achievement. With some modifications and improvements, the remarkable automatic machinery used for this purpose is an invention of the last century.

From the records available the present equipment seems to be the outcome of a patent that was applied for as far back as 1817 by Seth Hunt, in England, for making pins "with head, shaft and point in one entire piece." By this machine a suitable length of wire was cut off and held in a die till a globular head was formed on one end by compression and the other end was pointed by the revolution around it of a roughened steel wheel. This machine does not appear to have come into use, but in 1824 a man by the name of Wright, an American living in England, obtained a patent for carrying out the operations mentioned, and this was the master form of the machinery now employed by a firm in London, but later was transferred to Birmingham, in 1838, and was apparently very successful.

The Modern Method

In the modern pin-making machine, wire of suitable gauge running off a spool is drawn off and straightened by passing between straightening pins or studs set in a table. When a pin length has entered it, it is caught by lateral jaws, beyond which enough of it projects to form a pinhead. Against this end a steel punch advances and compresses the metal by a die arrangement into the form of a head. The pin length is immediately cut off and the headed piece drops into a slot sufficiently wide to pass the wire through but retain the head. The pins are consequently suspended by the head while their projecting ends are held against a revolving cutter by which they are pointed.

Where Gas Enters

They are then removed to a tank furnace containing a weak alkaline solution which is made to boil. This tank furnace can most conveniently be gas-heated, and it is certainly a most desirable fuel to use. The object is to cleanse the pins thoroughly before they are metal-coated (usually tinned). The pins are usually made of brass. No other method is so good, so quick or so efficient. The tank, which ought to be of heavy gauge steel and galvanized after being welded, should set in the furnace proper, which should be suitably insulated, and two screw oven-heating pipe burners should be evenly spaced beneath it in a suitable manner.

After the pins have been cleaned, the basket containing them is lifted out of the tank and they are set in a special trimming furnace which usually consists of a copper pan under which a burner is placed. The pins are arrayed on the pan in layers alternative with grained tin. The contents of this pan are covered with water, over which a quantity of a certain cleansing material is sprinkled. The pan is then heated by the burners for some time, when they are found to be coated with a thin deposit of tin. This gives them their silvery appearance, which everyone is familiar with. The material added to the water is usually argol, which is another name for the bitartrate of potassium. This method of tin-plating is far more satisfactory than the usual method of dipping in molten tin, for the reason that the coating is not so thick, thus saving tin, and the tin-plated surface is exceedingly homogeneous.

After this part of the process has been completed, the pins are washed in clean water and dried and polished in a tumbling barrel to which sawdust of fine quality is added. They are then withdrawn and are considered finished.

As most people are aware, a large proportion of the pins sold are stuck into paper by an automatic machine quite as ingenious as the pin-making machine itself. This, however, is hardly of interest to the gas industry, and those who care to do so can easily examine that part of the equipment when visiting a factory doing this class of work.

The domestic pin had become in the fifteenth century an article of sufficient importance in England to warrant the issuance of a governmental order against importation of these goods. This was in 1483. Again in 1540 Queen Catherine received pins from France, and again in 1543 an act was passed providing that "no person shall put to sale any pins, but only such as shall be double headed and have the heads soldered fast to the shank of the pins, well smoothed, the shank will sharpen the points well and round filed, counted and sharpened." At that time pins of good quality were made of brass; but a large proportion of those against which the legislative enactment was adverted were made of whitened iron wire, and these were sold so as to pass for brass pins. To a large extent the supply of pins in England was received from France until two to two and a half decades after 1600.

At that time the manufacture was introduced into Gloucestershire, England, by a certain John Tilsby, and the business was so flourishing that he employed some 1,500 persons. The city of Strond, where they were made, gained quite a reputation as a consequence. Toward the middle of the seventeenth century the pin makers of London formed a corporation and the manufacture spread to Bristol and Birmingham, which latter city became the chief seat of the industry.

American Established Industry on Present Foundation

Regarding later enterprise (now in the U. S. A.), in 1775 the inhabitants of the Carolinas were invited to manufacture these articles and the offer was backed up by the award of prizes, and it is not to

be forgotten that although most of the early work was executed in France and in England, it was largely due to Samuel W. Wright, the American, who finally established the industry on its present foundation.

The old form of pin consisted of a shank with a separate head of fine wire twisted round and secured to it. Fine wire for beads was first wound on a lathe round a mandrel and formed the exact circumference of the pin shanks to be headed. In this way a long elastic spiral was produced which had next to be cut into heads, each consisting of two complete turns of the spiral. These heads were softened by enameling, which, of course, in those days must in itself have been a tiresome operation with no gas available. The heads when enameled were made into a heap for the boy who did the work of heading the pins. It appears that it used to be his duty to thrust a number of shanks into the heap and let as many as might do so fit themselves with heads. Such shanks as came out thus headed were passed to the header, who with a falling block-and-die arrangement compared together shank and head of such a number as his die block was fitted for. All the operations, such as straightening the wire, cutting, pointing, were separately performed. These numerous details connected with the production of a common pin will give gas men some idea as to the enormous progress made by the advent of the present methods adopted and now employed almost universally.

Although the number of common-pin factories is not large yet, time may increase their number, and gas men will in that event find themselves well prepared.

By courtesy of the American Pin Company, of Waterbury, Conn., I am able to give the following description of the modern process. Readers will note with some interest that steam is referred to as the force of heat. This point needs no further comment.

The description as forwarded to the writer is as follows:

"Pins are made from both brass and iron wire, the best grade being made from brass, with which we will treat in the following description of their manufacture.

"Brass wire is an alloy of copper and spelter, which are first melted in a crucible and run into a mold in the form of a bolt or rod about 2 in. in diameter and 4 to 6 ft. in length.

"The rod is then put through a series of heavy steel rolls and reduced gradually to about ½ in. or smaller in diameter, after which it is put on a block and drawn through dies of various sizes until drawn down to the size desired, when it is coiled in small hanks, ready for delivery to the pin department.

"In the pin department the wire is first placed on a reel, from which it is run through a series of straightening rolls to take out all twists and kinks, and is then coiled on a large drum, ready for use.

"The wire is then put on a reel, from which it feeds automatically into the pin machine, being held in a pair of dies, the end of the wire protruding slightly, when the header strikes it several times, thus forming the head, and is then cut to the proper length. The pin is now ready for pointing and is carried by a belt along a tapering shaft having a screw thread, the end to be pointed, passing over a series of coarse, medium and fine revolving files or cutters, when it drops into the pan ready for whitening.

"The pins are next sent to the plating room to be whitened, and are first put in a revolving or tumbling barrels and rolled in sawdust to clean them, and when cleaned they are separated from the sawdust by a blower. They are then put in large copper kettles with a solution of chemicals and water, together with pieces of tin, when, steam pipes having been inserted, steam is turned into the kettles and the pins are boiled for five or six hours. On being removed from the kettles they are white, and are washed in clean water, then tumbled in a strong solution of soap, and are dried by tumbling in hot sawdust, the sawdust being separated as before.

"The pins are now ready to be stuck on papers, and are placed in a vibrating hopper which slopes slightly toward the sticking machine, from which they feed down the conductor, consisting of two straight strips of steel set parallel on an angle of about 45 degrees, between which the pins, held by their heads, slide by their own weight to the machine.

"The operator inserts a slip of paper, which passes between two grooved steel clamps, which crimp it, and it is then caught by another clamp on a wood roller. The machine being set in motion, the pins are taken from the conductor on a screw thread to a carrier, which takes thirty pins at a time and places them in front of a set of thirty punches, which in turn force the pins along the grooves in the clamp through the paper, thus sticking a complete row of pins at once.

"The crimper then releases automatically, and at the same time the roller, making a partial turn, carries the paper along the proper distance, when another row of pins is inserted, and so on until six rows are stuck. Then, having reached the center of the paper, which usually bears an imprint, the wood roller spaces the paper accordingly, and skips the printing when six rows more are stuck, and the operator, releasing the clamp on the roller, removes the completed paper and inserts another without stopping the machine. The papers of pins are then inspected, rolled, and packed, usually in boxes of twelve papers each."

Measuring Quantities of Moisture in Gases

A process which is a rapid means of measuring the quantity of moisture present in gases has been evolved by Messrs. Crockatt and Forster, and takes the form of an hygrometer which can be read by an intelligent workman. This instrument might also find extensive use in many operations in which the moisture in the gas has an important bearing, for example, in producer gas manufacture, SO_2 production (inlet air) blast furnace practice (air supply), etc.

It is well known that fibers expand more or less with increase in moisture, and some forms of qualitative hygrometers make use of this property. The ordinary spun fibers either contract or extend, depending upon whether they are tightly or loosely spun, the former are therefore unsuitable. In the category of loosely spun and unspun fibers only natural silk, artificial silks and hair are of sufficient length to be worthy of consideration. Of these Chardonnet was found to be most suitable, as it possessed the property of absorbing moisture very rapidly and exhibits a relatively high tendency to change in length upon hydration, in addition to being obtainable in long fibers of uniform diameter and considerable length.

American
Gas Engineering Journal

SIXTY-FIRST YEAR

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Contents of This Issue

GAS COMPANIES LIKE BANKS ARE COMMUNITY BUILDERS—BY L. W. ALWYN-SCHMIDT..... 480

AVOIDABLE WASTE OF FUEL IN GENERATING POWER $1,500,000 PER DAY..... 484

COAL OR GAS IN CONTINUOUS KILNS..... 484

PLANT THAT ROASTS ALL OF NAVY'S COFFEE USES GAS..... 485

USE OF GAS IN THE MANUFACTURE OF PINS—BY GILBERT C. SHADWELL..... 487

EDITORIAL..... 489

MERCHANDISING GAS..... 491

NEWS OF THE GAS INDUSTRY..... 495

As the Journal Views It

Teach Them the Reading Habit

About the greatest adventurer we have ever encountered is a man born in New York City, never away from Manhattan more than the distance of a fifteen-cent fare, and we do not know yet where he is going to die, but we'll wager it will not be farther away from City Hall than the Borough of the Bronx.

He is close to forty now and he makes two hundred dollars a month. We do not know how near or how often the wolf has approached his doorstep, but we do know he has never tasted of opulence, has never even nibbled at it. Yet he is as contented a man as we know. More, his wife is contented; so are his children. The most valued recreation of this man, his biggest indulgence, is reading adventure magazines.

His is a humdrum occupation, but he is never bored. His footsteps have trodden no other soil than that of three States, but in fancy they have gotten everywhere. He lives and adventures with the fictitious heroes of his magazine, so he is always moving mentally if not physically.

Our admonition is—our business department insists that it be so: Read your technical journal first; then, if you have time, a little fiction. But strive to your utmost to get those whose tasks require mainly physical exertion to read principally fiction.

The itching heel is a malady to which all of us are a prey. But those whose work is mental are afflicted by it to a greater degree than others. The more time we have for air castles the more irksome do the familiar surroundings become; the routine day's work.

Acute cases of the itching heel on a broad scale have pestered industry before and just now are pestering it particularly.

A real effort to teach men to get their change of scene at home or in the moving picture theater might well return an excellent dividend on the effort expended.

Public Will Get Just About What Public Deserves

There once was a time when men deemed mere achievement worth striving for regardless of pecuniary remuneration. There have been great surgeons whose pride was in the lives they saved and not in the dollars they earned. In fact, some of the greatest were so engrossed in their professional work that they were not business men at all and, despite their eminence as surgeons, continually down at the heels financially and continuously just a few paces ahead of the wolf.

The hand-to-mouth existence of clergymen is a tradition.

But the professionally trained classes of the world —the "high-brow" people, one might say—are being educated. From the bricklayer, the plumber, the coal heaver and the ditch digger they are learning it is not what you do that counts but what you can get.

The simpletons who started out after ideals, the doctor who saves lives, the manager who creates jobs at which thousands might profitably work, the clergyman who saves souls, the gas man who felt that the mere realization that he was doing something for others was no mean part of his compensation, to-day are undernourished, while the bricklayer, the plumber, the coal heaver and the ditch digger are living in opulence and comparative ease, and buying phonographs and automobiles.

The young man who goes into any calling to-day is going into it with his eyes open and sophisticated. He will not be impressed so much with the how-helpful-his-work-is-to-his-fellow-man idea as he will be with how much strawberries and cream it is going to bring to himself. Nor can much fault be found with this attitude.

It is quite often a most unsatisfactory undertaking to be too solicitous as to one's fellow man. One's fellow man too frequently is so totally engrossed in his own interests that instead of appreciating one's good-will toward him he takes advantage of it.

People in the gas industry are impressed with the need of its regularly attracting to itself a desirable type of young blood which may build up to be the gas man and gas manager of the future. The public, though it may not be aware of it, is vitally interested in the gas industry's success in this particular.

Up to the present the public has had competent gas supply. Twenty years from now, if the gas industry to-day cannot attract other than mediocre young blood, the public may possibly have to content itself with incompetent gas supply. And incompetent gas supply not only is vexing and unsatisfactory—it is dangerous.

Frankly, if we were a young man looking about for the field in which to attain our ambitions, our future livelihood, and had sat through the emergency conference of the American Gas Association held in New York City some weeks ago, we wouldn't have been in the least attracted to the gas industry.

The situation there presented was depressing and unpromising. And the cause was blundering, destructive regulation.

Such regulation will never make the gas industry an attractive calling to men competent mentally to become providers of gas. Intelligent regulation would.

And regulation of utilities is entirely within the public's control.

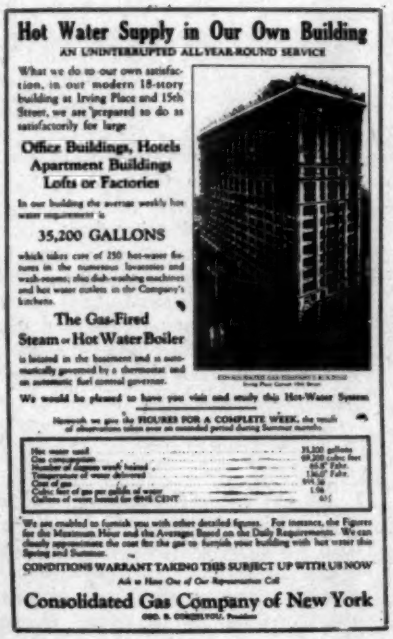
Water Content of Tar Gas

The arrangements adopted in some of the French gas works to keep the water content of tar down to the legal standard of 4 per cent are interesting. The amount of water in the crude tar sometimes amounted to 15 and even 30 per cent, and it was found that, even on standing, the water did not readily separate from the tar, particularly when the aqueous liquid was ammoniacal liquor. In consequence, arrangements were made to avoid such emulsions of tar with fresh water instead of liquor, using 30 liters of water per 100 cubic meters of gas (1.86 gallons per 1,000 cu. ft.). Thus the ammoniacal liquor decreased in strength, but former losses of ammonia, which were experienced through the repeated heating of liquor in the hydraulic main, were considerably curtailed. The seal-pots, which tend to promote the formation of an emulsion of tar and ammoniacal liquor, were another source of trouble. The usual type of seal-pot was consequently altered, the new form constituting an enclosed square tank in which the tar coming from the retort house runs down an incline, while the liquid accumulating at the bottom forms a seal on the take-off pipe. This arrangement assists greatly in the separation of tar and water, inasmuch as the globules of water contained in the tar are absorbed by the supernatant water above the tar at the bottom of the tank. Similar arrangements were made for the "montejus" by means of which tar is handled on the works, and also for the tar-liquor separators.

Massachusetts Lighting Sales

For April this year the gas and electric light companies owned by the Massachusetts Lighting Companies report aggregate net sales, excluding inter-company sales of gas and electricity, amounting to $172,253.05, as compared with $144,259.16 for April, 1919, an increase of $27,993.89. For the ten months ending April 30, 1920, the net sales were $1,712,547.71, as compared with $1,540,396.38 for the corresponding period, an increase of $172,151.33.

New York Companies Begin Publicity to Popularize Summer Gas Water Heating; Then Abruptly Stop



Hot Water Supply in Our Own Building

AN UNINTERRUPTED ALL-YEAR-ROUND SERVICE

What we do to our own satisfaction, in our modern 18-story building at Irving Place and 15th Street, we are prepared to do as satisfactorily for large

Office Buildings, Hotels Apartment Buildings Lofts or Factories

In our building the average weekly hot water requirement is

35,200 GALLONS

which takes care of 250 hot-water fixtures in the numerous lavatories and wash-rooms; also dish-washing machines and hot water coolers in the Company's kitchens.

The Gas-Fired Steam or Hot Water Boiler

is located in the basement and is automatically governed by a thermostat and an automatic fuel control governor.

We would be pleased to have you visit and study this Hot-Water System.

Herewith we give the FIGURES FOR A COMPLETE WEEK, the result of observations taken over an extended period during Summer months.

Hot water used	35,200 gallons
Gas consumption	69,200 cubic feet
Number of degrees water heated	65.8° Fahr.
Temperature of water delivered	134.0° Fahr.
Cost of gas	$55.36
Cubic feet of gas per gallon of water	1.96
Gallons of water heated for ONE CENT	63½

We are enabled to furnish you with other detailed figures. For instance, the Figures for the Maximum Hour and the Average Based on the Daily Requirements. We can closely approximate the cost for the gas to furnish your building with hot water this Spring and Summer.

CONDITIONS WARRANT TAKING THIS SUBJECT UP WITH US NOW

Ask to Have One of Our Representatives Call

Consolidated Gas Company of New York

GEO. B. CORTELYOU, President

Two Advertisements of Projected Series of Five Pulled So Heavily, Commercial and Industrial Departments Are Swamped—And Effects of the Effort Are Still Keeping Them Hustling

It is rare indeed that a story has to be written of the discontinuance of a serial of which only two chapters were ever given to the public, and there was no foot note or line to tell that the serial was "to be continued" on another day, week or month, or at any other time. It is equally strange that a recent originally intended serial was discontinued because it was "a best seller" or a far better seller than was anticipated. The first chapter of this story that was completed almost at the beginning, was published in the New York daily newspapers as far back as last March. It told how, through gas-fired steam boilers the immense Hotel Royalton in West Forty-fourth street was supplied during the summer with 5,737 gallons of hot water. It was an advertisement of the Consolidated Gas Company of New York.

Hotel Pleased With Installation But Busied as Consequence of Its Being Advertised

As explained by Robert E. Livingston, of that company, the advertisement was intended to be the first of at least five equally large newspaper displays. The advertisement told with preciseness the maximum figures for an hour, for a day and for a complete week as to the exact number of cubic feet of gas used to heat the water for the hotel. This advertisement not only brought hundreds of inquiries to the Consolidated Gas Company, but the hotel engineer good-naturedly complained that most of his time was consumed by visitors who wanted to be shown the hot water apparatus and have the details of its operation explained.

Not Local in Effects

The next chapter in the still uncompleted serial told of the gas-heated water supply in the Consolidated Gas Company's building, Irving Place and Fifteenth Street. In this case the amount of hot water furnished was 35,200 gallons a week at a cost for gas of $55.36. The advertisement invited the interested persons "to visit and study the hot-water system." The invitation was freely accepted and the representatives of the commercial and industrial departments were kept busy explaining the operation of the system to the visitors and booking "prospects." Both advertisements in the meanwhile had made their appeal to owners of large buildings in every part of the country. Hundreds of letters were received asking about the cost of installation and

What We Do for the Hotel Royalton

DURING THE SUMMER MONTHS

WE ARE READY TO DO FOR OTHER LARGE

Hotels, Factories, Loft or Office Buildings

The question of a convenient and ample Hot Water Supply must be considered by every Landlord or Owner of buildings.

The Hotel Royalton extends through from Forty-third to Forty-fourth streets, and is the best known Bachelor Hotel in New York City. Twelve stories in height, the Royalton has 300 Baths, 150 Wash-bowls, 34 Slop Sinks and 2 Kitchen Sinks.

5,737 GALLONS OF HOT WATER

Is the Average Daily Maximum Used Every Drop Produced by a

HOTEL ROYALTON No. 44 West 44th Street

GAS FIRED STEAM BOILER

DETAILED FIGURES OF HOT WATER SUPPLIED AND COST

FIGURES FOR THE MAXIMUM DAY	FIGURES FOR A COMPLETE WEEK	FIGURES FOR THE MAXIMUM HOUR
Hot water used per day	Hot water used per week	Maximum hourly demand
Gas consumption	Gas consumption	Gas consumption
No. of degrees water heated	No. of degrees water heated	No. of degrees water heated
Temp. of water delivered	Temp. of water delivered	Temp. of water delivered
Cost of gas per day	Cost of gas per week	Cost of gas per hour
Cu. ft. gas per gal. water consumption	Cu. ft. gas per gal. water consumption	Cu. ft. gas per gal. water consumption
Gallons of water for 1 cent	Gallons of water for 1 cent	Gallons of water for 1 cent

ASK TO HAVE ONE OF OUR REPRESENTATIVES CALL

Consolidated Gas Company of New York

GEO. B. CORTELYOU, President

other details. All these letters were forwarded to the gas companies in whose territories the writers of the letters were residents.

In the meanwhile the order had been received for twenty-five sections of the gas-fired boiler (Bryant) for heating the water in the magnificent building of the Union Theological Seminary, which occupies a block on Broadway between 120th and 121st streets. This would have given an excellent opportunity for an illustration of the third advertisement or chapter. The advertisement was conttemplated but never written. The first two had proved to be the "best sellers" of gas water heaters, and the company's commercial and industrial department forces were unable to cope with further requests. Long after the publication of the original advertisements "prospects" continued to call, write and telephone.

Why Advertising Was Begun While Snow Was Still Feet Deep

Among the latter were owners of private dwelling houses who were anxious to change from coal to gas for heating water. These were sorted in between these orders for larger installations: Hotel Wellington, forty-one sections; Hotel Albemarle, twenty-five sections; Wenning's Restaurant, thirteen; at least one Childs' restaurant, thirteen, and probably all of the Childs' restaurants within a short time; and two of Schraft's chain of candy stores and restaurants, thirteen each. The Childs' installation has proved so successful that it is to be duplicated in Montreal, St. Louis, Kansas City and other cities where the Childs' Company has its restaurants.

There were several underlying reasons as explained by Mr. Livingston, why the advertising of hot-water equipment was begun as early as the middle of March. The question of the summer "peak" was only one, while of consequence in itself. The news columns of the newspapers were daily filled with articles telling of the miners and their demands, the shortage of coal production, the lack of delivery and the probable high price of the coal to the consumer. Those who were and are depending on coal were undoubtedly interested in the news articles, and were watching the conditions. It was the time to call attention to the substitution of gas. If changes were to be made it was well that orders be obtained early so that there would be a distribution of the applications for water heaters and boilers over a long period, rather than have the orders pile up the latter part of May or through June. In this manner the work of installing could be more readily and satisfactorily handled at a time where there is not an abundance of thoroughly equipped men who can handle this class of work. As it was, it was necessary for the agents of the Bryant boiler, at the request of the Consolidated Gas Company to jump into the breach and assist the forces under Messrs. James Reynolds and G. M. Karshner of the industrial and commercial departments, respectively. The second and last advertisement appeared in April and in *Gas Logic* for three successive months and still the applications are being received daily. In all probability there will be no more "chapters" or advertisements written on the subject of gas water heating this year. Those that blazed the way proved sufficient unto themselves and the end—of installing—is not yet.

Twenty-one Novel Window Display Stunts

By Ernest A. Dench

In the eyes of a certain section of the public, everyone with whom they trade is either a profiteer or a liar. The Atwater Company, Sacramento, Cal., recently counteracted this tendency by an unusual announcement in the newspapers. The message was simply this:

> Come and see our window display. It will contain, during this week, all goods we are profiteering on. We are not afraid to let you know the truth.

Of course such an ad piqued the public's curiosity to see the contents of the window, and when they came face to face with the truth—the window contained—NOTHING.

Prices in Slang

On Fourth Street, Portland, Ore., is a store that has gotten out of the rut in pricing up goods in even dollars. One of their displays was devoted to a five-dollar special. The price term employed was "Five Bones." And the idea was illustrated by five beef bones placed in the middle of the trim.

Illustrating an Adjective

Another store in the same city is fond of the use of that expressive adjective — crackerjack. They enclosed one of their windows with a 24 x 30 frame, covered with black cardboard, over which a donkey was designed out of oyster crackers. "Crackerjack" was the expression used on the window cards that backed up the goods.

Help Yourself With the Light

The J. A. Jepson Company, Los Angeles, Cal., have a row of display cases in the lobby of their store. On the door is a large sign that points to a bell below. The sign announces:

> To See Store Lighted, Press Button.

And the curiosity that finds a place in the make-up of every human being prompts one to press the button. As long as the finger is kept on the button all the lamps in the display cases are lighted. Such a stunt is worth while, even though it may be abused by small boys.

A Turntable Display

The Wholesale Typewriter Company, Los Angeles, Cal., display their wares on a large turntable. This is a stunt that not only permits of a greater variety of goods without overcrowding, but it caters to that human desire to "see the wheels go round."

Leap Year Contest

The Masterpiece Company, Portland, Ore., introduced a Leap Year Contest. Placed in a recent window display were two large cardboard hearts. The first card advised one to—

> Watch this window for the story of the Prize Winning Lady.

There was a generous prize in merchandise to the first happily married couple to whom the honor of proposal belonged to the lady.

The Ever-Changing Kewpie

John C. Lewis, Louisville, Ky., has capitalized the kewpie craze in a unique manner. In the center of his window at all times stands a twenty-four inch kewpie. But that is the only thing commonplace about the stunt. This kewpie has quite an extensive wardrobe, whereas kewpies have generally quite the reverse. On rainy days he may wear overshoes, a small derby, and hold a large closed umbrella in his hand. When it's snowing he wears a fur coat. He also appears in appropriate dress in connection with local events and national holidays. But whenever he can show off, he dresses according to the latest style.

No Cash Needed Here

The Broadway Company, Lowell, Mass., simply had to speedily clear out a certain line of goods. While they slashed prices right and left, if the person felt a desire to take advantage of these bargains but lacked the necessary wherewithal, he was obligingly provided with it. Not cash, but the goods without the cash. This concern knew a thing or two about human nature in making this sensational offer, for no self-respecting person likes to beg or seek charity. In the window were the goods and the cards that told of the unique offer.

Propaganda That Pays

Frank & Sulphin, Newark, N. J., ally themselves with all worthy local movements, on behalf of which propaganda is always cheerfully given. We all know how the teachers and professors of this country are grossly underpaid, so in taking up the case of the teachers they speedily enlisted the sympathy of the public. In each of their two windows appeared the following card:

Education—How much does it mean to you?
How much does it mean to your children?
On it depends their whole future.
If your children are to be properly educated they must have Good Teachers.
Good Teachers must have Good Pay.
They are not going to work for a mere existence.
Let us wake up and help them in their fight.

"Special" Sign

Kinton, New York, N. Y., calls attention to the current special by a window sign that resembles a rural railroad crossing. The sign contains the familiar "Stop, Look and Listen" caption on its two crossed bars, beneath which appears particulars of the current special.

Meet Mime and Blue Pencil

Rosenthal, Brooklyn, N. Y., is rather partial to mimeographed window bulletins that are frequently changed. The title of this unique news sheet is "Mimie Talk," an example of which follows:

Rosenthal — The Man that made the dollar regain its voice —tells you of bargains that began on February 1st.
Bargains all days—all ways—at Rosenthal's.

Another of his window pane decorations is "Blue Pencil Talks," a daily bulletin written with a blue pencil, tying up the store in some way with the news of the world.

Window Built in Restaurant

Langdon, Brooklyn, N. Y., happens to be in close proximity to a popular priced restaurant that has only recently opened its doors. When this retailer learned that the store next door was going to be converted into a restaurant, he got in touch with the owners and arranged with them to have a window built into their white-tiled walls. This window is really a large glass case that is embedded in the wall and is brilliantly illuminated at night. An attractive display is made at all times and while the patrons are satisfying their hunger, they feast their eyes on the window contents right up in front of them and perhaps remember that there is something they need. It is an easy thing to step into the Langdon Store as they leave the restaurant.

A Short Cut

The Fain Company, Brooklyn, N. Y., have almost a corner location, extending from one street into the other. But to take the short cut through their store, near which are the subway and trolley stops, saves many steps for pedestrians. This concern have capitalized their unique location by posting signs in conspicuous places calling attention to the—

Short cut to Fulton Street—through the Fain Store.

As those folks who take the short cut have to pass by the arcade windows as well as stroll through the store, the reason for this enterprise is plainly apparent.

Weigh Yourself Here Free

The Walk-Over Shoe Company, Chicago, Ill., recently had some big scales out in front — the kind you drop a penny in, usually. But in this particular case you didn't have to drop a cent in. Over the scales was a sign:

These scales are correct; so are Walk-Over Shoes.

The tie-up can be changed to fit the merchandise displayed, as for example:

These scales are good; so are our goods.

Everyone who passed this Chicago store stepped up and weighed himself, while there was a line waiting to get on. It is safe to say that no one passed up or down that street without being reminded of the Walk-Over window displays.

Newsprint Shortage a Blessing In Disguise

When the Winnipeg, Canada, newspapers were forced to temporarily suspend publication because of the newsprint shortage, Argus McLean, Limited, found themselves with a sale on their hands and their customary advertising channels cut off. They rose to the uniqueness of the occasion by arranging for a complete bulletin service of telegraphic and local news. These bulletins were posted on their windows during the several days that Winnipeg was without a daily press. Crowds came to the windows to read the news, and, incidentally, learned of the bargains to be obtained.

Linking Ads Up With Window

Wilcox, Brooklyn, N. Y., ties up his newspaper advertisements with his window displays in a manner that calls for praise. In his windows appears a large card, as follows:

Most of our advertising is done in our shop windows.
Goods Speak Louder than Words.
Newspaper ads only describe them. Watch *Eagle* and *Standard Union* ads for our Daily Specials. Then come here and see them.

A Window Below a Window

The Alhambra, Harlem, New York, possesses a window, the floor of which is waist high from the sidewalk. The lower, boarded-in portion has been treated to a coat of black paint over the glass. However, in the middle of the lower portion there is a square, roughly three feet by three feet, that is not blackened out. Shelves have been provided inside, giving it the appearance of a show-case, where room is found for displaying the latest special.

New Place for Bulletins

The Great White Way, New York, N. Y., is another establishment with waist-high floors. Fastened to the paneling that reaches up from the sidewalk outside each window room has been found for a bulletin board that calls attention to the current merchandise.

Calls Attention to Newspaper Ads

Wallach Brothers, New York, N. Y., have equipped the side paneling of each trim by the window pane with a metal bracket. The bracket is on a level with the average person's head, and suspended from the bracket is a cardboard sign, on which their current newspaper advertisement is posted. A caption above announces:

If you overlooked this in your newspaper, read it now.

Prices Then and Now

The Fort Henry Store, Wheeling, Ohio, attracted window attention by posting the following placard:

They Were the Happy Days.
Will they ever come again?

Attached to the poster was a grocer's advertisement that appeared a number of years ago, quoting flour at $4.90 a barrel, bacon at ten cents per pound, eggs at fifteen cents per dozen, and so on.

A Photoplay Tie-Up

Kresge's, Toledo, Ohio, utilized a photoplay that was featured in the town. In one window they built an arch of white and yellow in striking combination, with the word *"Everywoman"* (the title of the photoplay) in the same colors. Underneath was a placard in black and white with three black arrows pointing downward in three directions, accompanied by the word—"NEEDS."

On the floor were the various articles that a woman is always needing.

Organization and Purpose of North Carolina Gas Association

At a meeting of representatives of 19 out of the 21 gas plants in the State of North Carolina, held at The O. Henry Hotel in Greensboro, June 4, the North Carolina Gas Association was formed for the purpose of taking steps to meet the emergency in the gas industry which is declared to exist throughout the nation as a result of the largely increased prices of gas-making material and the extreme difficulty in securing delivery of these materials.

The meeting of the North Carolina gas men and the formation of their association is the result of the same conditions which brought together representatives of several hundred gas companies throughout the United States in New York on May 26, at which vigorous action was determined upon to secure relief from conditions which threaten, not only the solvency of the industry but the comfort of convenience of nearly fifty million gas consumers.

It was brought out at the conference here that North Carolina gas producers whose contracts for coal and oil are now expiring are unable to place new contracts and are being compelled to purchase these products upon the open market at prices, in the case of both coal and oil, in many instances considerably in excess of twice the price paid under expiring contracts. Under such conditions and with the producers of other sections acting cooperatively to secure such allocation and priority of shipments as will protect them from interruption of service, the North Carolina producers felt that a proper consideration of the interests both of their customers and security holders demanded similar action.

The gas men are frank to say that with materials costing approximately twice the prices they were paying under expiring contracts, they will not be able to continue operations at rates prevailing at present in their respective cities.

One of the purposes of the organization is, through an exchange of ideas and discussion of production and distribution methods, to promote any increase that may be possible in efficiency to the end that rates may be held at the lowest minimum possible.

It is the purpose of the organization also to prepare a series of statements covering the acute situation in the industry for the information of the gas consumers of the State.

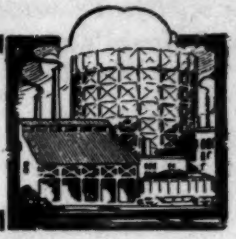
The organization of the new gas association was perfected through the election of the following officers: President, Noble L. Clay, Winston-Salem; secretary, John Paul Lucas, Charlotte; executive committee, Noble L. Clay, Winston-Salem; Paul A. Tillery, Raleigh; Raymond Hunt, Wilmington; Z. V. Taylor, Charlotte.

Court Orders Sale of Gas Co.

Judge Phil D. Swing has signed an order of foreclosure and order of sale of the Imperial Valley Gas Company, El Centro, Cal., on request of the bondholders. Some time ago a receiver was appointed for the gas company and ways and means were tried to refinance the company, which did not come out successfully.

A request was then made of the Corporation Commission of the State to allow the company to suspend operations on May 1 of this year. This permit was not issued, however, and now the bondholders have asked an order of foreclosure on the plant and ownership will pass from the stockholders back to the bondholders. In all probability proceedings will be taken in the near future to refinance the company.

NEWS OF THE GAS INDUSTRY



U. G. I. Asks Right to Change Candlepower Standard

Philadelphia is threatened with a famine in gas, because of the scarcity of gas-making oil.

This was the warning of the United Gas Improvement Company in formally requesting the city to change a provision in the gas company's lease so that fuel could be conserved.

The company asked for the abolition of the twenty-two candlepower standard, which is an integral part of the 1897 lease of the company with the city, and urged the substitution of a new system of measurement, the British thermal unit standard, by which less oil would be used and a new gas-making apparatus installed. The project will mean the abolition of the open-flame gas jet, which the company characterizes as archaic and wasteful. The use of incandescent lights in all households using gas will be made necessary.

The conditions which the local gas company and companies in other cities are up against were explained at a recent conference by Samuel T. Bodine, president of the United Gas Improvement Company, with Mayor Moore. There were also present at the conference Dr. Wiley Thomas, the city's representative on the company; P. H. Gadsden, chairman of the emergency committee of the American Gas Association, and City Solicitor Smyth.

The company uses approximately 187,000 gallons of "gas oil" daily to produce about 45,000,000 cu. ft. of gas. Diversion of the oil to the motor industries, a 300 per cent increase in its price in the last five years and inability to get the oil, coupled with increased use of gas for heating purposes by householders are given by the company as reasons for the desired change. It was said that under the new standard, which will measure the gas in heat units, instead of light units, one gallon of oil could be saved for every 1,000 cu. ft.

"For the winters of 1921 and 1922 we fear that the supply of fuel may not be adequate for gas-making purposes, and the city may do without lights at times," Mr. Bodine told the mayor.

A statement of the changes requested in the lease of 1897 was presented to the mayor by Mr. Bodine. He explained that when the lease was made, most of the gas sold in the United States and virtually all in Philadelphia was used through flame burners for illumination only, and candlepower was the standard. The lease stipulated twenty-two candlepower standard.

"Since then," continues Mr. Bodine's statement, "the introduction of gas ranges and water heaters in homes, hotels, etc., and of gas engines and furnaces in factories, has assumed very large proportions, and the use of incandescent mantle burners for gas lighting has become almost universal. In all of these appliances the gas after passing through the meter is consumed through a Bunsen burner, removing its illuminating quality and preserving only its heating quality. Because of these facts, in all recently enacted regulations municipal authorities and State public utility commissions have discontinued the candlepower standard, and substituted a heating value standard, commonly expressed by the letters 'B.t.u.,' an abbreviation of British thermal units.

In our own State of Pennsylvania the candlepower standard is in effect only in the city of Philadelphia.

"We are having very great difficulty at present to secure the requisite quantity of oil for gas making in Philadelphia, and are advised that next year it is probable that not more than one-half of the quantity which we now are using will be available.

"Owing to the high price and scarcity of coal, householders are making greatly increased demands upon the gas works. It is, therefore, necessary to prepare for a considerable increase in manufacturing capacity, and the orders for this apparatus should be placed very promptly. The immediate problem is, shall this new apparatus be coal gas apparatus or water gas apparatus? If coal gas apparatus, it cannot be efficiently used if the present candlepower be maintained. In view of the oil outlook, it seems most unwise and a serious economic waste to continue to operate the Philadelphia gas works on a candlepower basis involving as it does an unnecessary consumption of oil needed for other purposes."

Contracts Awarded

THE WESTERN GAS CONSTRUCTION COMPANY of Fort Wayne, Ind., has been awarded the contract for the construction of the second biggest gas making plant in the world. It is estimated that work on the plant will take about a year's time. The plant will be constructed for The Chicago By-Products Coke Company and will be erected in Chicago on the West Side. It will furnish gas for the Peoples Gas, Light & Coke Company, and will produce $17,600 worth of gas per day, based on the present gas rates in effect in Chicago.

This large contract is only one of a series of large plants which have been constructed and erected by this company. A water gas set installed at New Orleans has attracted attention throughout the country. All the plans for the large plant to be constructed were made by the engineers of the company and all of the work will be done in the local plant.

According to the statement of F. H. Beebe, general manager of The Western Gas Company, it is probable that the plant will expand in order to take care of the great amount of work it has.

Gas Produced in Tennessee

Gas produced during 1919 in Tennessee totaled 821,662,000 cu. ft. with a value of $1,563,319, with $347,177 paid for labor in producing.

Use of High-Pressure Gas for Industrial Purposes Made Possible

An important change in the ordinary distribution practice relating to industrial gas, with effects that secure higher efficiency, has been found feasible by the engineers of the Industrial Gas Department of the Public Service Company of Northern Illinois, and the necessary devices are being installed by numerous large customers. It is expected that many others in this class will follow.

The method involves the furnishing of high pressure gas instead of low pressure gas, that is, as to the latter, gas sent into the customers' piping system at a pressure quarter of a pound. Gas must be mixed with air in proper proportions to form a suitable combustible quantity. When burned in large amounts the problem of mixing demand a duplicate pipe or main for the purpose of air supply. At certain specified points, air from this pipe is admitted to the gas under valve regulation. The adjustment of the air and gas valves is an operation requiring close attention, since, as is readily understandable, if it be imperfectly performed the result will be that too much of one fluid is sent into the furnace with immediate effects on the temperature. Blowers and pumps are necessary in the shops to facilitate the process and finally there must be a number of men to attend to the valves.

In the substitution of high pressure gas a specially designed mixer is installed at each furnace. The flue gases are analyzed and the proper mixture of gas and air needed to maintain the temperature wanted is thus ascertained. The special mixer is then adjusted to secure this. Gas is sent into it at five pounds pressure and is reduced by a tip in the throat of the mixer to the safe burning pressure of two ounces. A high pressure meter standing the line pressure in pounds is put in and it eliminates the necessity of the safety seal. No further attention to the valves is needed once the special mixer is adjusted.

Aside from the higher efficiency of the furnace, proceeding from the more uniform temperature which this mixer enables to be maintained, there is a considerable economy in labor. Very few valve attendants are wanted. One of the most important points is the large saving made possible in first costs. No air pipe paralleling the gas pipe is needed. Likewise blowers and pumps are dispensed with. Also the pipes can be reduced in size and yet carry an equal quantity of gas when the latter is transmitted under high pressure. It is estimated the installation in a factory can by means of this special mixer be reduced more than 60 per cent in cost. Considered from the cost angle, the arrangement argues strongly in favor of gas fuel. Coal requires a stack and other equipment and when oil is burned the consumer must provide storage tanks and other apparatus. All these gas renders superfluous.

Supreme Court Upholds Gas Rate of Dollar and Thirty

Citizens of La Crosse, Wis., will continue to pay the Wisconsin-Minnesota Light & Power Company $1.30 per 1,000 cu. ft. for gas, under a ruling of the State Supreme Court.

Gas consumers have been paying $1.30 since June 30 last pending the outcome of a case appealed to the Supreme Court. If the Supreme Court had decided against the company, patrons of the utility would have received rebates amounting to the difference between $1.30 and $1.10 for all gas used since last June.

The Wisconsin Supreme Court reversed the judgment of the lower court in the La Crosse gas emergency case, and remanded the case to the trial court "with directions to affirm the June 30 order of the commission as an emergency order."

"The commission up to the time of trial in circuit court had not been able to make an independent audit of the company's income account for the year 1918, nor make a valuation of its property, two important factors in determining what is a reasonable and lawful gas rate under existing conditions," says Justice Siebecker, "but it is claimed that the utility's conduct of its business was shown to be grossly inefficient and extravagant, and that the conditions of the company's business account for any loss or impairment of its financial returns under rates existing prior to June 30, 1918. We are not satisfied that the facts of the record show this result with sufficient certainty to overturn the findings of the commission on which the order of June 30, 1918, is based. The commission's findings of the existence of the emergency must stand.

"It is considered that the large and unforeseen increase in the cost of labor, supplies and materials brought about by the conditions of the war was sufficient to show that an emergency existed in the conduct of the utility business which was operating and furnishing gas at a rate which was established as reasonable and lawful under conditions existing prior to the increased cost of labor, supplies and materials, and that the facts before the court do not refute the commission's conclusions that an emergency existed within the contemplation of the statute."

Gas Company Granted 33 Per Cent Rate Increase

The Western United Gas & Electric Company, of Aurora, Ill., has been authorized by the State Public Utilities Commission to increase gas service rates in Aurora, Elgin, Joliet and sixty-one smaller communities in northern Illinois. Under the order the company is authorized to increase the net rate from 90 cents per 1,000 cu. ft. to $1.20. This is the increase the company asked.

If the rates now allowed yield more than enough to meet the increased cost of labor and materials the company will be required to return the excess to its patrons, together with 6 per cent interest.

The new gas rates are in effect as of May 1.

Gas Rate Increase Authorized

The Public Service Commission has authorized the Northern Indiana Gas & Electric Company to increase gas rates in South Bend and Mishawaka. The present rates range from 98 to 73 cents for each 1,000 cu. ft., with a monthly minimum of 50 cents. The new rates range from $1.25 to 75 cents for each 1,000 cu. ft., with a monthly minimum of $1. The 75 cent rate applies to oil gas used in excess of 200,000 cu. ft. a month, and is subject to a variation dependent on the price of gas oil.

John West, Well Beyond 80, Establishes a Separate American Unit of His World-Wide Business

Will Contract For and Construct Complete Gas Plants Utilizing Glover-West Continuous Vertical Retorts—All the West Company's Efforts Have Been Concentrated on This Type Since John West, for Forty Years Engaged in Building Horizontal Retort Stoking Machinery, Became Convinced That the Continuous Vertical Was the Logical Type

In 1906 John West, since 1870 engaged in the development and construction of coal distillation systems, toured the United States and Canada, gauged the future of the American gas industry and decided to establish in this country a separate firm to construct gas plants on the model of his West's Gas Improvement Company, Ltd., of London and Manchester, which was and is among the predominating gas plant builders in England; his ideal being to have the American company an organization with all the resources and technical ability of the original company behind it, but self-dependent—a company that would be adequate to contract for and handle complete gas works installations and to supply technical advice and assistance in their operation.

Years passed then came the war. In the meantime Mr. West had not deviated from his purpose of establishing the American company.

His Aim Realized

Now, at the time when the future of the American gas industry does not look particularly bright to many, Mr. West has manifested his faith in its future, and its unlimited opportunity of expansion, by establishing his American company with headquarters in New York City, with facilities for undertaking complete installations of Glover-West Vertical Retort plants on a scale rivalling that of the original company back in England which has more than half a century of history behind it.

The Glover-West system of Vertical Retorts which is installed at numerous important cities throughout the world, is essentially a development of John West's. Its aim is an improved yield of gas per ton of coal, the cutting of labor costs in gas manufacture down to the minimum, to reduce ground area required per million cubic feet of output, to have all parts of the plant readily accessible, and enable attendants to conveniently attend their duty, to have a small number and simplicity of mechanical parts, regularity and cleanliness of working, comparative freedom from smoke and steam, a liberal range to allow variation of output to comply with demand, ready means of regulation of spread of carbonization to suit quality of coal, and quantity and quality of gas required, ease of starting and restarting gas production, low fuel consumption, readily controlled chimney draft, increased quality and yield of coke per ton, uniformity in quality of gas throughout carbonization, low percentage of inerts, low naphthalene content, and regular coal feed.

Now in Operation at Many Widely Separated Localities

Glover-West installations are now in operation throughout Great Britain, in Canada, Australia, New Zealand, Norway, Sweden, Denmark, Holland, China, Brazil, Japan and the United States, and other countries, and, therefore, use a wide variety of coals. Their success in handling these coals is pointed to as a demonstration of the wide adaptability of the system to various kinds of coal.

Mr. West was one of the original experimenters in developing machines for charging and drawing gas retorts, and his work in this connection stands out as among the most prominent and successful in Europe. At the beginning of his work in the British gas industry he made machines for horizontal retorts and erected plants of this type, but as his experience developed he leaned more and more towards the vertical retort

until some years ago, he became so strongly convinced that it was the logical type for gas making that his company's works abandoned other types and concentrated upon the Glover-West Vertical system.

Success has followed the installation of his plants throughout the world and a very considerable part of the business now being done by the company is in the nature of repeat orders and plant expansion. So large have become the interests of the West's Gas Improvement Company, Ltd., in the United States and Canada, that the establishment of the American company became an obvious necessity.

Thus John West, at more than 80 years of age, of the highest standing in his own country comes pioneering into the American field with the expectation of building up a business that will rival, at least, if not overshadow the business of the parent organization in England.

His entering wedge is the Glover-West type of continuous vertical retort. That the field exists in this country for the development of a large business of this kind, Mr. West has no doubt, despite the seeming depression in the American gas industry at the present time. His optimism is not founded on lack of information as to recent developments in the American field. The data gathered in his own study of American conditions in 1906 is supplemented by that of his son Fred J. West, general manager of the West Gas Improvement Company, gathered on a tour of the United States and Canada made early this year. It is upon the basis of what his own investigations disclosed and those of Fred J. West, that the West Gas Improvement Company of America has been decided upon and established with headquarters in New York City.

Gas Companies Get Higher Rates

The Elizabethtown Gas Light Company, Elizabethtown, N. Y., and its subsidiaries, Cranford Gas Light Company, Metuchen Gas Light Company, and Railway Gas Light Company have been given permission by the Board of Public Utility Commissioners to charge $1.15 for gas.

Kings County Company Ordered to Spend $2,500,000 on New Equipment

Public Service Commissioner Lewis Nixon has approved an order directing the Kings County Lighting Company, Brooklyn, N. Y., to purchase new equipment worth $2,500,000 so that it can properly serve its consumers.

The order was issued on the recommendation of Deputy Commissioner Morgan T. Donnelly, who has been investigating the condition and capacity of the company's plant. The equipment ordered by the Commission will increase the plant's capacity 60 or 70 per cent.

The addition to the mechanical equipment of the company will suffice for two years and the additional holder capacity for ten years, it is estimated. The mechanical equipment will have to be increased 10 per cent every two years if the company's business continues to grow as it has for the past few years.

With its present equipment the company is rated at a capacity of 9,600,000 cu. ft. of gas each day. It is able to produce only 7,400,000. William Merrifield, the gas engineer of the Commission, estimates that the poor quality of gas oil being used by the company at present decreases the normal capacity of the plant by 30 per cent, while the business has increased 20 per cent in a year.

The equipment ordered purchased by the Commission is estimated to add 6,000,000 or 7,000,000 cu. ft. per day to the company's production in theory and about 5,000,000 cu. ft. actually. This will give the company an actual production capacity of about 12,000,000 cu. ft. per day. As it is estimated that there are 1,400 residents of the Bay Ridge and adjoining sections unable to secure service from the company at the present time, this entire increase in capacity will be hardly more than sufficient for the company's business two years from now.

The equipment order calls for the installation of, among other things, three water-gas generating machine sets, each with a capacity of not less than 3,000,000 cu. ft. per day A total of 9,000,000 cu. ft. is set for the purpose of having sufficient generating equipment, so that if the bad quality of the gas oil places several of the gas making machines out of service at one time there will still be sufficient equipment to permit the plant to continue in operation. The order calls for the enlargement of the present equipment and for an increase in the present gas holder facilities of the company to 9,000,000 cu. ft. capacity, together with necessary piping and pumping systems and accessories. While a holder of 2,000,000, or possibly 4,000,000, cu. ft. capacity, added to the present equipment, would be sufficient for immediate needs, it is considered by the experts to be more economical to construct a large holder at one time. The holder alone will cost from $300,000 to $1,000,000. The order also directs the purchase or procurement otherwise of 4,500 gas meters to provide for changes of meters and to take care of the more than 1,400 applicants who are now awaiting gas service connections.

Boston Consolidated Asks Permission to Increase Rates

Permission to increase the price of gas to consumers from the present rate of $1.10 per 1,000 cu. ft., without making a corresponding reduction in the dividend rate of 7 per cent paid to stockholders, is asked by the Boston (Mass.) Consolidated Gas Company in a petition filed with the State Department of Public Utilities. The petition contains no request for a specified increase, but sets forth that the advance since Dec. 1, 1919, in the general cost of the manufacture and distribution of gas is at least 40 cents per 1,000 cu. ft. The "standard" price, as fixed by the Department of Utilities under the "sliding scale" act, is $1.10, and the same act provides that any increase to consumers above the standard price requires a corresponding reduction in the dividend rate.

The price to Boston consumers was raised 10 cents a few weeks ago, from $1 to $1.10.

The petition sets forth that since it petitioned for the advance in prices to $1.10 there has been a further increase in the price of labor and material, and other changes in conditions affecting the general cost of the manufacture and distribution of gas. It says that the price of oil has increased from $0.075 to $0.15 per gallon, the price of generator fuel from $9 to $16 per net ton, the price of gas coal from $8 to $16 per gross ton, and the price of labor 10 per cent.

U. S. Government Considers Necessity of Controlling Oil Production

The Government at Washington has at last realized the vital necessity for some sort of definite policy governing the production of crude petroleum as indicated by the introduction by United States Senator Phelan of a bill providing for the United States Oil Corporation, a semi-private enterprise, organized to meet conditions in both this and other countries. In short, Senator Phelan would have this nation engage in oil prospecting in other lands.

The present oil shortage and unprecedented exports, with the consequent ever-increasing high prices, has created a home situation that amounts to a crisis. This especially is true in so far as oil is an essential in the manufacture of gas, upon which some 45,000,000 people daily depend for cooking and light.

The production of oil has become a highly organized industry, conducted on an efficient and scientific basis. While oil, like food, has become a daily necessity, there are many millions of families which make up the population of every city in the nation, whose food will go uncooked unless the manufacturers of gas, a principal by-product of petroleum, can continue to operate their plants.

The oil policy—or lack of policy—in the United States for years seemingly has been based upon the idea that the oil reserves underneath the soil have been absolutely unlimited. That this is not the case and that the natural supply is rapidly giving out, is indicated by the recent paper emanating from the Federal Bureau of Mines that the country is living far beyond its oil means. In addition to this, there must be recalled the recent statement of Van H. Manning, head of the Bureau of Mines, which predicted that the oil supply of the United States would be exhausted in twenty years.

Government estimates place American oil reserve at 6,740,000,000 barrels. In the year 1919, the oil output was 366,000,000 barrels. On the other hand, the oil consumption during 1919 was 433,500,000 barrels. Production in March this year was increased by 6,000,000 barrels, but this amount still was insufficient to meet the ever-increasing demand, and 6,500,000 barrels were imported from Mexico to meet the shortage.

Oil men point out the fact that even if production does keep up with consumption there is a limit to the oil reserve under our own land. Producers see in Senator Phelan's measure introduced in the Senate a plan to get oil from foreign nations rather than to increase production from United States reserves.

Progress Made by Winfield Natural Gas Company in Three Years

The last three and one-half years' service of the Winfield Natural Gas Company, in Winfield, Kan., is an interesting history. It is the history of a company which has endeavored to co-operate to the fullest extent with the citizens and civic government in giving the best possible service to its customers, and in rendering them every assistance.

In November, 1916, a warehouse was established a block from the present gas office. At the same time a canvass of the entire city was begun, for the purpose of regulating gas appliances and to ascertain and make a record of all equipment which would waste gas or cause the customer to complain of his gas service.

The results of the canvass were startling. One hundred and fifty coal ranges with gas burners were found, and the equipment on the whole was discovered to be of a poor grade; very few customers knew how to regulate their appliances.

During the next three months an extensive educational campaign was waged, by means of the newspapers and personal calls on the customers of the company. By February, 1917, considerable interest had been manifested, and a display room had been opened in the front section of the warehouse, where high class and poor appliances were shown and the economical use of gas fixtures explained and demonstrated.

At the beginning, there was a feeling of skepticism on the part of many customers, but their confidence was gradually gained, and they began to try better appliances and to use gas more economically. The first sale was a gas range in February, 1917. After this the sales grew rapidly, until at the present time the company markets a majority of the gas appliances sold in Winfield, and has a business which is increasing every year. This growth necessitated the combining of the sales room and gas department and meant increasing the new business force from one man to six.

The representatives of the company now are regarded as counselors on gas heating, lighting and cooking problems. Originally if a stove smoked, the gas was blamed. Now a representative is asked to regulate the stove or clean it out. A call is made on each consumer from two to five times each year, for the purpose of giving advice, correcting gas waste, and creating a friendly feeling between customer and company. Most of the poor equipment has been eliminated, and Winfield at the present time is one of the best equipped natural gas towns in Kansas.

Information as to what the Winfield Natural Gas Company was doing in Winfield eventually reached the smaller towns in that vicinity, and their citizens began coming to the gas company for stoves and other appliances and for advice in the use of gas. It was found advisable to place a stock of appliances in these towns and to hire men who make it their business to look after the customers in the towns.

This growth in three years and a half has led to the necessity of greater co-operation between the departments of the company, and the entire organization is working together like a well-oiled machine.

Gas Company Must Continue Service

The Public Service Commission has declined to authorize the Interstate Public Service Company to abandon its gas service at Aurora, Ill., but has approved an agreement between the city and the company whereby the company is to charge $2.25 per 1,000 cu. ft. for gas for a period of one year. In the meantime the city may arrange to buy the plant. The present rate is $1.50 per 1,000 cu. ft.

The commission authorized the Northern Indiana Gas & Electric Company to put into effect at Fort Wayne, Ind., a temporary schedule of gas rates intended to prevent further losses by the company pending the determination of a fixed schedule by the Public Service Commission. Temporary rates will range from $1.25 to 75 cents, with $1 monthly minimum. Present rates range from 93 cents to 73 cents, with a 50-cent monthly minimum.

Voting on Gas Question

Stockholders of the Citizens' Natural Gas, Oil & Water Company, of Shelbyville, Ind., are voting on whether the company will construct an artificial gas plant in this city or will liquidate and divide the profits.

Bulletin No. 2—Bituminous Coals—Issued by Federal Trade Commission

The Federal Trade Commission has issued the following bulletin showing the relative changes in the bituminous coal:

Situation between January and February, 1920. Figures for 1,372 operators are given. The increase of 10 cents per ton in the average claimed f. o. b. mine cost is primarily attributable to the decrease in output, since there was no general increase in the rate of wages paid in February over that paid in January. The table also shows the percentage which the time actually worked formed of the possible full working time each month which in the case of January, was taken as 26 days, and in the case of February, 23 days. The average production per day of possible full working time, for the 1,372 operators was 801,846 tons in January, and 766,354 tons in February, a decrease for February of 4 per cent.

The increase of 10 cents per ton in the average claimed f. o. b. mine cost of the 1,372 operators, together with the decrease of 1 cent per ton in their average sales realization, resulted in an 11 cent decrease in their margin for February as compared with January.

Gas Company Seeks Revision of Its Charter

Application for revision of gas rates upward to $2.50 per 1,000 cu. ft. has been made by the Barre Gas Company, Barre, Vt., the plea being based on the assertion that increased costs of gas-making material required the raise in order to enable the company to meet its fixed charges and maintain the financial condition of the company. The present rate is $2 per 1,000.

In presenting the application for a revision of the charter in order to permit of the raise to $2.50, Treasurer E. H. Gay of the company stated that the jump from $2 to $2.50 might not be made all at once and that the proposal to increase would go before the Public Service Commission. The $2 maximum rate now allowed by the company's charter was fixed in 1902, and the maximum rate was reached in 1918. The proposed increase would amount to 25 per cent.

Treasurer Gay asserted that the present maximum rate of $2 had enabled the company to meet its fixed charges and also to pay off $2,400 of the company's indebtedness; but that the increased costs of materials would wipe out the company's chances for repeating. There are, he said, $75,000 six per cent first mortgage bonds, $62,000 notes, $50,000 preferred stock of the company. The valuation of the plant was put at $190,000.

The proposed 25 per cent increase in rates would bring in about $9,000 additional, which, declared Treasurer Gay, would enable the company to maintain itself as in the last two years, but would allow no dividends for preferred and common stock and no salaries for officials. He called to attention that the increased earnings would enrich the city treasury in greater proportion than it would the company, inasmuch as the company, under its charter, is compelled to pay two per cent of its gross earnings to the city.

Some of the greater costs in gas making were referred to as oil, coal and railroad transportation. Oil, he said, had jumped from 7 cents to 17 in a few years; coal had advanced in marked manner; and there was no telling just what the transportation increase might be. Hence he thought the company was justified in making application for a revision of the company's charter, enabling the company to charge a maximum of $2.50.

THE HAVERHILL GAS LIGHT COMPANY, Haverhill, Mass., has declared the regular quarterly dividend of $1.12½ a share, being at the rate of 9 per cent per annum, payable to stockholders of record June 15.

THE PEOPLE'S NATURAL GAS COMPANY of Rushville, Ind., has petitioned the State Public Service Commission to increase its rates from 40 to 75 cents a 1,000 cu. ft. On September 1, 1918, the rates were raised from 30 to 40 cents. Increases in the cost of operation and maintenance of the company's property is given as the cause for asking more revenue.

THE JANUARY AND FEBRUARY, 1920, SALES REALIZATIONS AND CLAIMED F. O. B. MINE COSTS PER TON OF 1,372 IDENTICAL OPERATORS, BY GENERAL COMPETITIVE REGIONS

General Competitive Regions	Number of operators.	January, 1920 — Production (tons).	Per cent of time worked.	Sales realization.	Claimed f.o.b. mine cost.	Margin.	February, 1920 — Production (tons).	Per cent of time worked.	Sales realization.	Claimed f.o.b. mine cost.	Margin.	Increase of claimed cost, Feb. over Jan.		Decrease of output per working day in Feb. from that in Jan.
Central Competitive "Interstate"	405	9,150,136	73	$2.43	$2.11	$0.32	7,954,061	70	$2.46	$2.18	$0.28	$0.07	3%	2%
Eastern Adjacent..	445	4,449,221	69	2.80	2.34	0.46	3,637,596	65	2.81	2.46	0.35	0.12	5%	8%
Western Adjacent.	79	1,170,787	79	2.82	2.33	0.49	930,709	78	2.83	2.50	0.33	0.17	7%	10%
So. Appalachian ..	208	2,408,501	73	3.03	2.69	0.34	2,031,386	72	3.02	2.81	0.21	0.12	4%	5%
S.W. "Interstate"..	140	1,161,002	81	3.49	3.05	0.44	937,552	74	3.41	3.21	0.20	0.16	5%	9%
Rocky Mountain ..	95	2,508,352	92	3.07	2.48	0.59	2,134,829	91	2.98	2.56	0.42	0.08	3%	4%
United States.....	1,372	20,847,999	73	$2.75	$2.33	$0.42	17,626,133	69	$2.74	$2.43	$0.31	$0.10	4%	4%

Built to Out-Wear All Other Makes

An ever-growing number of gas companies insist on Akron Two-Wheel Tubular Steel Barrow equipment. The reason is plain. Akron Tubular Steel Barrows are built to wear longer than other makes and to cost less in the end. And they do! Moreover, there are special designs to answer all unusual requirements peculiar to the needs of the gas industry.

All Akron Barrows for gas plants embody certain exclusive principles of construction that are not found elsewhere. Better materials. More advanced type of workmanship and many other features that are covered fully in our descriptive literature. Write to-day for complete details.

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AKRON BARROWS

Gov. Parker of New Orleans Tells of His Gas Plans

Governor John Parker of New Orleans, La., has issued the following statement regarding his plans for obtaining a supply of gas for Louisiana:

"The time has come when Louisiana should see that our natural resources are used for the real practical benefit of all the people. The gas fields of Morehouse, Ouachita and De Soto parishes are the largest known fields in the world, and prompt steps should be taken to see that by means of pipe lines, compressing stations and storage tanks, these vast reservoirs of nature's richness are tapped and utilized for the benefit of the people, manufacturing interests, home interests, and heating and lighting on both sides of the Mississippi river, from the State line on the East, from Red River on the West to the city of New Orleans.

"Great manufacturing plants like the Standard Oil Company, American Sugar Refining Company, Colonial Sugar Refining Company, Reserve Sugar Refining Company, Aluminum Manufacturing Company and hundreds of others would no doubt, be ready, willing and anxious to co-operate in an intelligent effort to bring the superabundant supply of gas where it can be utilized in an economical way; result in an enormous saving of coal, oil and other fuels; save our already overcongested transportation lines, and be an assurance of profit not only to the gas producers, to the gas pipe lines, but a blessing to all of our people on each side of the Mississippi river, rapidly transforming our wonderful valley into one of the largest manufacturing sections of the world, and enabling us to take advantage at home of the golden opportunities offered.

"Another consideration would be the furnishing of an unlimited fuel supply along the line of the new tide water canal, running from the Mississippi river to Lake Pontchartrain touching the Belt Railroad and all lines of railroad which are now in New Orelans or hereafter come there, and offering to the active business men of the United States an ideal location for manufacturing, and shipping to the people of the balance of the world on the most economical basis known to mankind.

"The possibilities of this development are practically unlimited, and when placed before the members of the General Assembly, my belief is that they will heartily co-operate by passing a Constitutional Amendment for the extension of gas pipe lines, and issue a franchise direct from the State, clearly specifying the privileges and limitations necessary to assure our people an abundant supply of natural gas at a specified price.

"The matter is already under consideration by a number of able financiers throughout the country, and in compliance with my promise to the people of this State to use every means at my command to bring gas to the city of New Orleans, I beg to say that mature reflection satisfies me that instead of one city being the beneficiary, that section of the Mississippi Valley lying in Louisiana should unitedly be the beneficiary of what to my mind, is the greatest opportunity ever offered the manufacturer, the business man and the householder."

Big Natural Gas Development in California

What may prove to be one of the biggest natural gas developments in the West is in the soils near the peat deposits of Byron Hot Springs, Cal. The Pacific Gas & Electric Company is interested.

Gas has been bubbling up in many places for some time in that section.

John A. Britton, vice-president and general manager of the Pacific Gas & Electric Company, sent his best expert to Byron Hot Springs, and the result of the tests made have just been announced.

The gas is of the best illuminating quality and the highest in heat units of any discovered anywhere. Tests show it carries a British thermal unit of 850.

When it is known that the best quality of gas heretofore found in California, including that now in use in San Francisco, Stockton and elsewhere, is of a British thermal unit of only 500, the worth of the discovery at Byron Hot Springs can be the better appreciated.

There must be enormous underground pressure to produce the thousand and one bubbling gas wells that cover the surface in all directions.

If the pressure is found to be high enough the gas can be carried long distances. Whether it can be distributed to Byron, Brentwood, Tracy and Livermore, of course, is a matter for the experts to decide. It will, at any rate, be used at the Springs and be conveyed to Byron for use in homes, if desired, for cooking.

It will first be developed for use in the boilers and kitchen at the Springs, and later Britton's company will proceed to investigate its uses for commercial purposes.

It will take about a year to complete the experiments. Several thousand dollars will be spent in the work.

Galena Gas Plant Built in 1860 Shut Down

Galena, the oldest city in Illinois, home of the late General U. S. Grant and county seat of Jo Daviess County, is now without gas. Its plant, which served it unfailingly for 70 years is being dismantled and householders are back again where they were in civil war times reinvesting in oil stoves and coal and wood burners.

Failure to receive sufficient rates led to a receivership a year ago. Eight months ago the plant was sold at a sheriff's sale. Now it has been entirely closed down and the equipment is being moved.

The city's gas plant was started about 1860, before the Civil War, and was one of the chief sources of pride of old residents, because of the engineering feat in its construction, it being necessary to spend great amounts of investors' money in laying the greater part of its mains in solid rock.

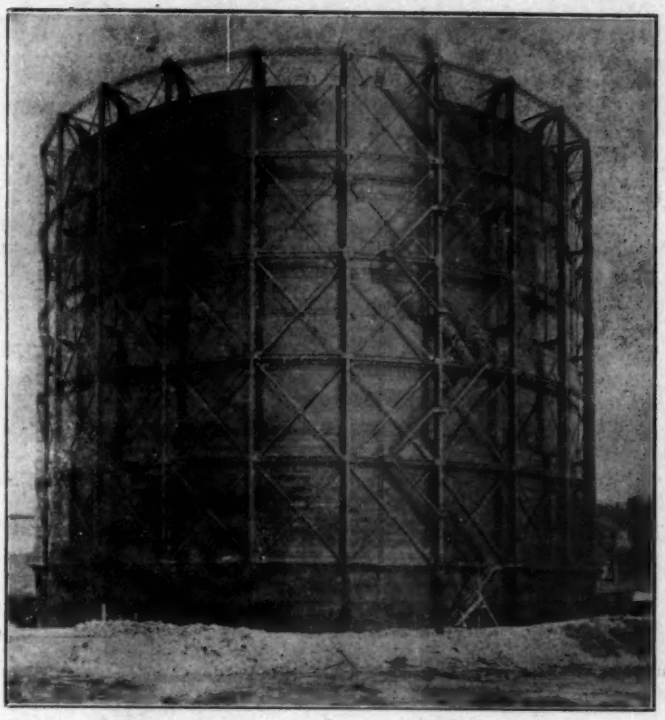
Up to 1909, the company, serving practically only residential customers, who represent but small profit to a gas company, was charging $2.50 per 1,000 cu. ft. for gas. Then it voluntarily reduced rates to $2. About three years ago a "lower rate" agitation was started. Mass meetings of agitated citizens were held. Experts said that cheaper gas was impossible, especially as present tremendous production costs had even then started on their upward flight. But a delegation appeared before the State Utilities Commission and was able to obtain a "victory" in the shape of a reduction to $1.75 per 1,000 ft.

The company was serving 450 homes when it was forced to quit. All of these householders had considerable sums of money invested in gas ranges, heaters, various cooking appliances and lighting apparatus when the blow came and have sustained heavy losses.

RITER-CONLEY CO.

PITTSBURGH, PA.

PURIFYING BOXES



STEEL TANKS

BUILDERS OF

TWENTY YEARS EXPERIENCE **GAS HOLDERS** HAS TAUGHT US HOW

STEEL CONSTRUCTION OF ALL KINDS

Philadelphia	Pottstown	Detroit	Chicago	Cincinnati
Washington	New York	Boston	Syracuse	San Francisco

GAS PURIFYING MATERIALS

NATRONA RED ORE
To Be Mixed With Fluffing Material

MINERAL SPONGE
The Best Fluffing Material

MINERAL SPONGE OXIDE
Prepared For Use

PENNSYLVANIA SALT MFG. CO.

WIDENER BUILDING

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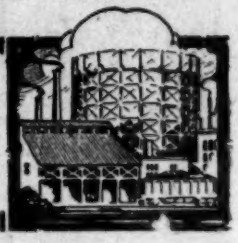
With The Equipment & Appliance Manufacturers



Conducted by Business Department of American Gas Engineering Journal

Lux Gas Purifying Material to Be Available Here Again

The Alpha-Lux Company, 192 Front Street, New York, announces that they have been appointed sole American representatives for the sale and distribution of Lux Gas Purifying Material which was used extensively by gas companies here before the war.

They state that Lux Gas Purifying Material is uniform in its chemical composition and has an exceptionally high absorptive capacity on account of its finely divided condition. That it will take up twice as much as H_2S, and will effect the purification of gas quickly. By its use the flow of gas is increased threefold, thus increasing the capacities of purifiers, which is practically important to gas works working with inadequate purifying plants. In such cases instead of erecting new purifying plants, the use of lux material in place of natural or artificial oxide is recommended.

It is claimed that the use of Lux Purifying Material reduces the number of changes of purifiers by at least one-half, and as its revivification takes place very quickly, there is a large saving in less waste in gas, comfort in working and lessened risk.

This product originates in that part of Germany under French control and is shipped down the Rhine to Rotterdam from which port it is shipped to any American seaport. This company is of 100 per cent American ownership and are prepared to quote prices to gas companies interested in this product.

Fuel Oil Pumping Systems

The Worthington Pump & Machinery Corporation, 115 Broadway, New York, recently issued a catalogue entitled "Fuel Oil Pumping Systems." One chapter is devoted to the Worthington Duplex Piston Oil Meters for measuring crude oil and petroleum, from and into tanks, and for recording the amount of oil used in connection with oil-burning apparatus.

It is claimed that the only form of construction which is accurate and reliable for oil measuring purposes is the positive displacement machine of piston type. These meters have extra wide flanges and are fitted with metal buffers in heads. The cylinders are provided with air cocks at the top which should be opened at intervals when meters are working on such fluids as naphtha, benzine, kerosene, etc., to release any gas which may collect in the cylinder. The ends of the cylinders are fitted with adjustable tappets., By screwing these in or out, length of plunger stroke is altered. This permits exact calibration of meter under actual working conditions.

Almetal Household Steam Laundry

The Almetal Manufacturing Company, St. Louis, Mo., recently issued a folder describing the "Almetal Household Steam Laundry."

This machine is equipped with a gas flame under the water container, which keeps the water boiling hot until cooler water is wanted. The vacuum-suction-heat system forces the steam and boiling water back and forth through the clothes. This washer has a device that lifts the clothes out of the boiling water automatically when the top is opened. The same motor that drives the washer also operates the wringer, and the wringer can be swung to any position. "If men had to do the washing," they state, "they wouldn't carry water back and forth; they wouldn't rub clothes over a washboard, etc.," as they seek the easiest and quickest way to get the best results.

Manufacturers of Glover-West Vertical Retorts and Other Specialties Open New York Office

The West Gas Improvement Company of America has opened an office at 150 Nassau Street, New York. This company is the American branch of The West Gas Improvement Company, Ltd., Manchester, England, who is well known in the United States as the manufacturers of the Glover-West Vertical Retorts, a system of continuous carbonization for gas plants and other specialties. Heretofore the parent company was represented here by agencies. From now on the American company will handle all this business. A staff of engineers will be part of the new organization, and plans and estimates will be furnished and contracts undertaken for furnishing plants, varying from a daily capacity of less than a hundred thousand cubic feet to the requirements of the largest works. Mr. F. J. Kennedy who has been in charge of the Canadian business of the parent company is general manager of the new company.

Sprague Meter Co. Issues New Catalogue

The Sprague Meter Company, Bridgeport, Conn., has just issued a new catalogue—edition No. 6. The catalogue is freely illustrated, showing cuts of the various parts of the meter, and also of a display meter for use in gas company offices and showrooms for demonstration purposes. The Sprague prepayment attachment is shown, and instructions given for changing the prepay rate wheel. The catalogue also gives dimensions and capacities of meters, price lists for meter repairs and parts, tools, etc.